

Table 1. Third Grade Mathematics- Percentage of Students Likely to Show Mastery

3rd Grade Mathematics		Percentage of Students Likely to Show Mastery (For Various Percentile Ranks in the Arizona Ability Distribution)				
		Legend	0-49%	50-74%	75-100%	
Arizona College and Career Ready Domain and Standard		5th Percentile	15th Percentile	50th Percentile	85th Percentile	95th Percentile
Geometry	AZ-3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	44%	49%	58%	66%	71%
	AZ-3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.	32%	39%	57%	78%	87%
Measurement and Data	AZ-3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	33%	40%	56%	74%	83%
	AZ-3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). 1 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	52%	60%	73%	83%	88%
	AZ-3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.	35%	45%	71%	90%	95%
	AZ-3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.	26%	29%	41%	67%	82%
	AZ-3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement. (a) A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. (b) A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	41%	47%	59%	72%	79%
	AZ-3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	55%	61%	71%	80%	84%
	AZ-3.MD.C.7a Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.	64%	70%	79%	87%	90%
	AZ-3.MD.C.7b Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	25%	29%	38%	52%	62%
	AZ-3.MD.C.7c Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a x b and a x c. Use area models to represent the distributive property in mathematical reasoning.	31%	37%	54%	74%	83%
	AZ-3.MD.C.7d Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	34%	38%	49%	63%	72%
	AZ-3.MD.D.8 recognize perimeter as an attribute of plane figures and distinguish between linear and area measures: Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	36%	44%	62%	80%	88%
Number and Operations in Base 10	AZ-3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	30%	35%	52%	74%	85%
	AZ-3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	37%	45%	61%	78%	85%
	AZ-3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., $9 \times 80$ , $5 \times 60$ ) using strategies based on place value and properties of operations.	36%	46%	68%	86%	92%
Numbers and Operations- Fractions	AZ-3.NF.A.1 Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$ .	63%	71%	82%	90%	93%
	AZ-3.NF.A.2a Represent a fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $\frac{1}{b}$ and that the endpoint of the part based at 0 locates the number $\frac{1}{b}$ on the number line.	26%	27%	38%	71%	88%
	AZ-3.NF.A.2b Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.	36%	41%	56%	74%	83%
	AZ-3.NF.A.3a Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	18%	19%	26%	60%	84%
	AZ-3.NF.A.3b Recognize and generate simple equivalent fractions, e.g., $\frac{1}{2} = \frac{2}{4}$ , $\frac{4}{6} = \frac{2}{3}$ . Explain why the fractions are equivalent, e.g., by using a visual fraction model.	52%	64%	80%	91%	94%
	AZ-3.NF.A.3c Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = \frac{3}{1}$ ; recognize that $\frac{6}{1} = 6$ ; locate $\frac{4}{4}$ and 1 at the same point of a number line diagram.	20%	21%	23%	44%	74%
Operations and Algebraic Thinking	AZ-3.NF.A.3d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual fraction model.	52%	58%	70%	80%	85%
	AZ-3.OA.A.1 Interpret products of whole numbers, e.g., interpret $5 \times 7$ as the total number of objects in 5 groups of 7 objects each.	52%	61%	76%	87%	92%
	AZ-3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.	30%	37%	56%	78%	87%
	AZ-3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	31%	39%	63%	86%	93%
Operations and Algebraic Thinking	AZ-3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	31%	38%	58%	78%	87%

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		Legend	0-49%			
			50-74%	75-100%		
Arizona College and Career Ready Domain and Standard		5th Percentile	15th Percentile	50th Percentile	85th Percentile	95th Percentile
Operations and Algebraic Thinking Cont.	AZ-3.OA.B.5 Apply properties of operations as strategies to multiply and divide.- Students need not use formal terms for these properties.	33%	39%	56%	76%	85%
	AZ-3.OA.B.6 Understand division as an unknown-factor problem.	31%	42%	66%	87%	93%
	AZ-3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$ , one knows $40 \div 5 = 8$ ) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	46%	57%	76%	89%	94%
	AZ-3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	24%	28%	40%	63%	76%
	AZ-3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.	30%	36%	52%	72%	82%

Table 2. Third Grade English Language Arts- Percentage of Students Likely to Show Mastery

3rd Grade English Language Arts		Percentage of Students Likely to Show Mastery (For Various Percentile Ranks in the Arizona Ability Distribution)				
		Legend		5th Percentile	15th Percentile	50th Percentile
		0-49%	50-74%			
Arizona College and Career Ready Domain and Standard				5th Percentile	15th Percentile	50th Percentile
				85th Percentile	95th Percentile	
Language	AZ-L.3.1 Conventions of Standard English: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	44%	54%	73%	88%	93%
	AZ-L.3.1a Conventions of Standard English: Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.	34%	40%	55%	73%	82%
	AZ-L.3.1b Conventions of Standard English: Form and use regular and irregular plural nouns.	33%	40%	57%	75%	84%
	AZ-L.3.1e Conventions of Standard English: Form and use the simple (e.g., I walked; I walk; I will walk) verb tenses.	40%	48%	64%	78%	85%
	AZ-L.3.1f Conventions of Standard English: Ensure subject-verb and pronoun-antecedent agreement.	40%	50%	70%	85%	91%
	AZ-L.3.1g Conventions of Standard English: Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.	27%	30%	44%	71%	85%
	AZ-L.3.1h Conventions of Standard English: Use coordinating and subordinating conjunctions.	30%	41%	71%	93%	97%
	AZ-L.3.1i Conventions of Standard English: Produce simple, compound, and complex sentences.	38%	46%	64%	81%	88%
	AZ-L.3.2 Conventions of Standard English: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	38%	46%	63%	80%	87%
	AZ-L.3.2a Conventions of Standard English: Capitalize appropriate words in titles.	33%	38%	51%	67%	76%
	AZ-L.3.2b Conventions of Standard English: Use commas in addresses.	24%	26%	33%	53%	70%
	AZ-L.3.2c Conventions of Standard English: Use commas and quotation marks in dialogue.	26%	29%	40%	62%	76%
	AZ-L.3.2d Conventions of Standard English: Form and use possessives.	30%	35%	47%	62%	71%
	AZ-L.3.2e Conventions of Standard English: Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness).	35%	42%	58%	74%	82%
	AZ-L.3.2f Conventions of Standard English: Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words.	44%	55%	75%	88%	93%
	AZ-L.3.3a Knowledge of Language: Choose words and phrases for effect.	27%	30%	43%	66%	79%
	AZ-L.3.4a Vocabulary Acquisition and Use: Use sentence-level context as a clue to the meaning of a word or phrase.	31%	41%	71%	93%	97%
	AZ-L.3.4b Vocabulary Acquisition and Use: Determine the meaning of the new word formed when a known affix is added to a known word (e.g., agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat).	30%	37%	57%	79%	89%
	AZ-L.3.4d Vocabulary Acquisition and Use: Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.	26%	29%	41%	62%	75%
	AZ-L.3.5a Vocabulary Acquisition and Use: Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., take steps).	29%	35%	51%	72%	82%
	AZ-L.3.6 Vocabulary Acquisition and Use: Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., After dinner that night we went looking for them).	26%	29%	38%	53%	65%
Reading: Foundational Skills	AZ-RF.3.3a Phonics and Word Recognition: Identify and know the meaning of the most common prefixes and derivational suffixes.	24%	27%	39%	70%	86%
	AZ-RF.3.3c Phonics and Word Recognition: Decode multisyllable words.	62%	72%	86%	94%	96%
Reading for Informational Text	AZ-RI.3.1 Key Ideas and Details: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	30%	35%	52%	74%	84%
	AZ-RI.3.10a Range of Reading and Level of Text Complexity: By the end of the year, read and comprehend functional texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.	25%	28%	41%	63%	76%
	AZ-RI.3.2 Key Ideas and Details: Determine the main idea of a text; recount the key details and explain how they support the main idea.	26%	31%	46%	68%	79%
	AZ-RI.3.3 Key Ideas and Details: Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.	28%	35%	55%	79%	88%
	AZ-RI.3.4 Craft and Structure: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.	30%	37%	57%	80%	89%
	AZ-RI.3.5 Craft and Structure: Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.	27%	32%	49%	73%	85%
	AZ-RI.3.6 Craft and Structure: Distinguish their own point of view from that of the author of a text.	35%	42%	59%	77%	85%
	AZ-RI.3.7 Integration of Knowledge and Ideas: Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).	39%	49%	68%	84%	90%
	AZ-RI.3.8 Integration of Knowledge and Ideas: Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).	29%	34%	49%	70%	81%
	AZ-RI.3.9 Integration of Knowledge and Ideas: Compare and contrast the most important points and key details presented in two texts on the same topic.	31%	34%	45%	63%	75%
Reading for Literature	AZ-RL.3.1 Key Ideas and Details: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	33%	42%	62%	82%	90%
	AZ-RL.3.2 Key Ideas and Details: Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.	31%	39%	59%	81%	89%
	AZ-RL.3.3 Key Ideas and Details: Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.	30%	37%	55%	76%	85%

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3rd Grade English Language Arts		Legend	0-49%	Percentage of Students Likely to Show Mastery (For Various Percentile Ranks in the Arizona Ability Distribution)			
			50-74%				
			75-100%				
Arizona College and Career Ready Domain and Standard			5th Percentile	15th Percentile	50th Percentile	85th Percentile	95th Percentile
Reading for Literature Cont.	AZ-RL.3.4 (Use also L.3.4a & L.3.5a) Craft and Structure: Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.		38%	46%	63%	79%	86%
	AZ-RL.3.5 Craft and Structure: Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.		36%	43%	59%	77%	85%
	AZ-RL.3.6 Craft and Structure: Distinguish their own point of view from that of the narrator or those of the characters.		34%	41%	57%	74%	82%
	AZ-RL.3.7 Integration of Knowledge and Ideas: Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).		52%	64%	81%	91%	95%
	AZ-RL.3.9 Integration of Knowledge and Ideas: Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).		35%	42%	59%	76%	84%
Writing	AZ-W.3.1a Text Types and Purposes: Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons.		30%	35%	45%	58%	67%
	AZ-W.3.1b Text Types and Purposes: Provide reasons that support the opinion.		39%	47%	65%	81%	88%
	AZ-W.3.1c Text Types and Purposes: Use linking words and phrases (e.g., because, therefore, since, for example) to connect opinion and reasons.		28%	36%	57%	80%	89%
	AZ-W.3.1d Text Types and Purposes: Provide a concluding statement or section.		33%	39%	52%	68%	76%
	AZ-W.3.2a Text Types and Purposes: Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.		32%	38%	55%	74%	83%
	AZ-W.3.2b Text Types and Purposes: Develop the topic with facts, definitions, and details.		30%	35%	49%	66%	76%
	AZ-W.3.2c Text Types and Purposes: Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information.		26%	31%	45%	65%	76%
	AZ-W.3.2d Text Types and Purposes: Provide a concluding statement or section.		38%	44%	59%	74%	81%
AZ-W.3.8 Research to Build and Present Knowledge: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.		41%	51%	69%	84%	90%	

Table 3. Eighth Grade Mathematics- Percentage of Students Likely to Show Mastery

8th Grade Mathematics		Percentage of Students Likely to Show Mastery (For Various Percentile Ranks in the Arizona Ability Distribution)				
		Legend	0-49%	50-74%	75-100%	
Arizona College and Career Ready Domain and Standard		5th Percentile	15th Percentile	50th Percentile	85th Percentile	95th Percentile
Expressions and Equations	AZ-8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions.	30%	39%	63%	85%	93%
	AZ-8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$ , where $p$ is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.	27%	33%	51%	75%	86%
	AZ-8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.	31%	39%	58%	78%	87%
	AZ-8.EE.A.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	27%	31%	41%	57%	67%
	AZ-8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.	37%	44%	59%	76%	83%
	AZ-8.EE.B.6 Use similar triangles to explain why the slope $m$ is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at $b$ .	27%	29%	37%	51%	63%
	AZ-8.EE.C.7 Solve linear equations in one variable.	34%	37%	49%	67%	78%
	AZ-8.EE.C.7a Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ , $a = a$ , or $a = b$ results (where $a$ and $b$ are different numbers).	26%	27%	33%	52%	69%
	AZ-8.EE.C.7b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	23%	25%	36%	64%	81%
	AZ-8.EE.C.8a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	26%	30%	40%	58%	69%
	AZ-8.EE.C.8b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.	24%	27%	36%	55%	69%
	AZ-8.EE.C.8c Solve real-world and mathematical problems leading to two linear equations in two variables.	39%	46%	61%	76%	83%
Functions	AZ-8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (Function notation is not required in Grade 8.)	29%	33%	48%	69%	81%
	AZ-8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	29%	32%	43%	63%	75%
	AZ-8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.	34%	41%	57%	76%	85%
	AZ-8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two $(x, y)$ values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	31%	36%	51%	70%	80%
	AZ-8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	32%	37%	48%	62%	71%
Geometry	AZ-8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations.	22%	24%	38%	70%	86%
	AZ-8.G.A.1a Lines are taken to lines, and line segments to line segments of the same length.	28%	34%	58%	86%	94%
	AZ-8.G.A.1b Angles are taken to angles of the same measure.	47%	54%	68%	80%	85%
	AZ-8.G.A.1c Parallel lines are taken to parallel lines.	42%	48%	61%	73%	80%
	AZ-8.G.A.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	37%	45%	60%	76%	84%
	AZ-8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	32%	38%	54%	73%	82%
	AZ-8.G.A.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	27%	31%	48%	72%	84%
	AZ-8.G.A.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	31%	34%	43%	60%	71%
	AZ-8.G.B.6 Explain a proof of the Pythagorean Theorem and its converse.	30%	34%	44%	60%	71%
	AZ-8.G.B.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	23%	26%	42%	74%	89%
	AZ-8.G.B.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	30%	33%	44%	64%	76%
	AZ-8.G.C.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	31%	35%	47%	63%	73%
The Number System	AZ-8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	29%	33%	43%	59%	70%
	AZ-8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\pi^2$ ).	33%	43%	67%	87%	93%

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Arizona College and Career Ready Domain and Standard			5th Percentile	15th Percentile	50th Percentile	85th Percentile	95th Percentile	
Statistics and Probability	AZ-8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.		52%	59%	70%	79%	84%	
Statistics and Probability Cont.	AZ-8.SP.A.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.		27%	30%	43%	69%	83%	
	AZ-8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.		25%	27%	32%	42%	51%	
	AZ-8.SP.A.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.		32%	37%	52%	70%	79%	

Table 4. Eighth Grade English Language Arts- Percentage of Students Likely to Show Mastery

8th Grade English Language Arts		Percentage of Students Likely to Show Mastery (For Various Percentile Ranks in the Arizona Ability Distribution)				
		Legend		5th Percentile	15th Percentile	50th Percentile
		0-49%	50-74%			
Arizona College and Career Ready Domain and Standard				5th Percentile	15th Percentile	50th Percentile
				85th Percentile	95th Percentile	
Language	AZ-L.8.1 Conventions of Standard English: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	43%	54%	74%	89%	94%
	AZ-L.8.1a Conventions of Standard English: Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.	32%	39%	58%	79%	87%
	AZ-L.8.1b Conventions of Standard English: Form and use verbs in the active and passive voice.	36%	39%	46%	55%	60%
	AZ-L.8.1c Conventions of Standard English: Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.	54%	64%	78%	89%	93%
	AZ-L.8.2 Conventions of Standard English: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	26%	30%	42%	64%	77%
	AZ-L.8.2a Conventions of Standard English: Use punctuation (comma, ellipsis, dash) to indicate a pause or break.	30%	37%	54%	74%	84%
	AZ-L.8.2b Conventions of Standard English: Use an ellipsis to indicate an omission.	35%	39%	49%	63%	71%
	AZ-L.8.2c Conventions of Standard English: Spell correctly.	41%	47%	58%	70%	76%
	AZ-L.8.3 Knowledge of Language: Use knowledge of language and its conventions when writing, speaking, reading, or listening.	35%	43%	61%	80%	88%
	AZ-L.8.4a Vocabulary Acquisition and Use: Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.	30%	37%	58%	79%	88%
	AZ-L.8.4b Vocabulary Acquisition and Use: Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).	41%	50%	66%	81%	87%
	AZ-L.8.4c Vocabulary Acquisition and Use: Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.	34%	40%	58%	77%	85%
	AZ-L.8.5a Vocabulary Acquisition and Use: Interpret figures of speech (e.g. verbal irony, puns) in context.	36%	43%	57%	73%	81%
	AZ-L.8.5b Vocabulary Acquisition and Use: Use the relationship between particular words to better understand each of the words.	35%	42%	57%	75%	83%
	AZ-L.8.5c Vocabulary Acquisition and Use: Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., bullheaded, willful, firm, persistent, resolute).	35%	41%	57%	75%	84%
Reading for Informational Text	AZ-RI.8.1 Key Ideas and Details: Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.	36%	43%	60%	78%	85%
	AZ-RI.8.10a Range of Reading and Level of Text Complexity: By the end of the year, read and comprehend informational and functional text, including history/social studies, science, and technical texts, in the grades 6–8 text complexity band independently and proficiently.	38%	45%	60%	75%	83%
	AZ-RI.8.2 Key Ideas and Details: Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.	35%	41%	56%	73%	81%
	AZ-RI.8.3 Key Ideas and Details: Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).	31%	38%	57%	80%	89%
	AZ-RI.8.4 Craft and Structure: Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	33%	40%	56%	75%	84%
	AZ-RI.8.5 Craft and Structure: Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.	36%	42%	56%	72%	79%
	AZ-RI.8.6 Craft and Structure: Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.	32%	38%	54%	71%	81%
	AZ-RI.8.8 Integration of Knowledge and Ideas: Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.	31%	36%	50%	68%	77%
	AZ-RI.8.9 Integration of Knowledge and Ideas: Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.	22%	23%	28%	48%	67%
Reading for Literature	AZ-RL.8.1 Key Ideas and Details: Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.	31%	37%	52%	71%	81%
	AZ-RL.8.2 Key Ideas and Details: Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.	34%	40%	54%	70%	79%
	AZ-RL.8.3 Key Ideas and Details: Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.	30%	36%	57%	80%	89%
	AZ-RL.8.4 Craft and Structure: Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	30%	35%	51%	72%	82%
	AZ-RL.8.5 Craft and Structure: Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.	33%	39%	52%	67%	76%
	AZ-RL.8.6 Craft and Structure: Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.	37%	45%	63%	81%	88%
Writing	AZ-W.8.1a Text Types and Purposes: Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.	29%	33%	44%	60%	70%



Table 4. Eighth Grade English Language Arts- Percentage of Students Likely to Show Mastery

8th Grade English Language Arts		Percentage of Students Likely to Show Mastery (For Various Percentile Ranks in the Arizona Ability Distribution)				
		Legend				
		0-49%	50-74%	75-100%		
Arizona College and Career Ready Domain and Standard		5th Percentile	15th Percentile	50th Percentile	85th Percentile	95th Percentile
Writing Cont.	AZ-W.8.1b Text Types and Purposes: Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.	27%	32%	47%	69%	81%
	AZ-W.8.1c Text Types and Purposes: Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.	36%	42%	56%	71%	79%
	AZ-W.8.1d Text Types and Purposes: Establish and maintain a formal style.	28%	33%	47%	67%	78%
	AZ-W.8.1e Text Types and Purposes: Provide a concluding statement or section that follows from and supports the argument presented.	25%	29%	43%	64%	77%
	AZ-W.8.2a Text Types and Purposes: Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.	38%	44%	55%	68%	75%
	AZ-W.8.2b Text Types and Purposes: Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.	30%	36%	55%	77%	87%
	AZ-W.8.2c Text Types and Purposes: Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.	26%	31%	47%	72%	85%
	AZ-W.8.2d Text Types and Purposes: Use precise language and domain-specific vocabulary to inform about or explain the topic.	35%	41%	54%	69%	77%
	AZ-W.8.2e Text Types and Purposes: Establish and maintain a formal style.	28%	31%	41%	59%	71%
	AZ-W.8.2f Text Types and Purposes: Provide a concluding statement or section that follows from and supports the information or explanation presented.	32%	37%	48%	63%	71%
	AZ-W.8.8 Research to Build and Present Knowledge: Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	26%	29%	42%	67%	80%